

THE WORLD'S LARGEST ISOMETOPINE,
GIGANTOMETOPUS ROSSI, NEW GENUS AND
NEW SPECIES (HETEROPTERA: MIRIDAE)

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Abstract.—*Gigantometopus rossi*, a new genus and species of Isometopinae from Sumatra, which is almost three times the length of any previously known isometopine, is described and illustrated.

While sorting and identifying Miridae on loan from the California Academy of Sciences, San Francisco (CAS) we discovered an undescribed genus and species of what we believe is the largest known member of Isometopinae.

Gigantometopus, new genus

Type species. *Gigantometopus rossi*, n. sp.

Diagnosis. Distinguished from all known isometopines by the large body size, the long, suberect setae, and the strongly tumid scutellum.

Description of Macropterous Female. General Aspect. Exceptionally large, ovoid, total length 6.98 (Fig. 1); surface strongly punctate, smooth, shining between punctures, with long, suberect, pale, simple setae. **Head.** Vertical, height greater than width, flattened (Fig. 2), juga slightly carinate; shallowly punctate ventrad of eye, posteriolateral margin strongly punctate, with longer, erect setae; eyes not contiguous, emarginate near ocelli, forming posterior margin of head laterally, extending slightly dorsad of pronotum; vertex ecarinate; antennal segments I and II thicker than III and IV, II slightly thickened distally; labium reaching apex of metacoxa. **Pronotum.** Trapezoidal in dorsal view (Fig. 1); collar suture punctate; lateral margin carinate; anterior lobe and calli slightly swollen, calli impunctate, reaching lateral margins, with a single deep median fossa. **Scutellum.** Heartshaped, tumid, attaining height of pronotum in lateral view, sunken basomedially, apex flat and pointed; impunctate basolaterally. Hemelytra. Lateral margin weakly convex; embolium flattened and slightly tilted dorsad; clavus laterad of claval vein, and costal vein, deeply punctate; cuneal fracture prominent; membrane with two cells and minutely setose. **Legs.** Procoxa and metafemur swollen; five mesofemoral and six metafemoral trichobothria with well-developed bothria (Figs. 3, 4); claws without subapical tooth; parempodia setiform; pulvilli absent. **Ostiole peritreme.** Large evaporative surface and produced peritremal disk. Genitalia. Not examined.

Etymology. From the Latin *gigas* meaning giant, and *metopus* from the generic name *Isometopus*, the type genus of the subfamily.

Discussion. In worldwide keys to isometopine genera (McAtee and Malloch, 1932; Ghauri and Ghauri, 1983) *Gigantometopus* keys to *Isometopidea* Poppius, but differs from the two included species of that genus, *lieweni* Poppius (from Sri Lanka) and



Fig. 1. Habitus of *Gigantometopus rossi*.

miriformis Slater and Schuh (from South Africa), and all other isometopines by its great size.

McAtee and Malloch (1932) proposed tribes and infratribal groupings for the Isometopinae. The vertical head, the cuneus not reaching the apex of the hemelytra, and the parallel-sided clavus, which extends beyond the apex of the scutellum, place



Fig. 2. *Gigantometopus rossi*, lateral view of head and thorax.

Gigantometopus in the tribe Isometopini and division Myiommaria. Henry and Wheeler (1988) and Akingbohunge and Henry (1984) suggest raising Myiommaria to the tribal level. There has not been a comprehensive cladistic analysis of the subfamily, we insert our new genus within their scheme of higher categories only for comparative purposes.

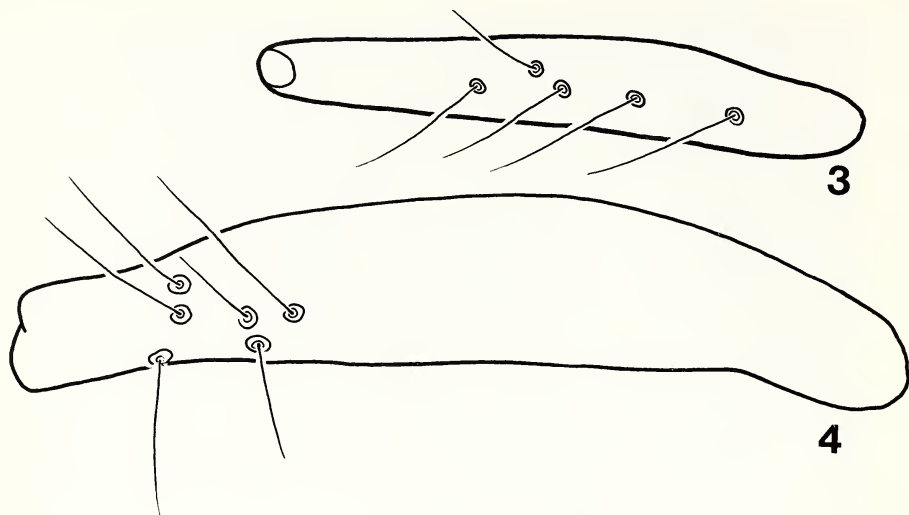
Gigantometopus is important to the classification of the Miridae because of the presence of a more full compliment of femoral trichobothria (five mesofemoral, six metafemoral) and tarsal claws without a subapical tooth, indicating greater variability in these attributes than was previously known. Schuh (1976) proposed that the reduced trichobothrial number, two mesofemoral and three metafemoral, is an autapomorphy of Isometopinae. Schuh and Schwartz (1984) hypothesized that the presence of a subapical tooth is synapomorphic of a group containing the Isometopinae, Cylapinae and *Psallops*. It now seems clear that a more thorough survey of the distribution of states of these character systems, as well as the study of other characters in the Isometopinae, Cylapinae and *Psallops*, is necessary to determine the validity of the theory proposed by Schuh (1976) and Schuh and Schwartz (1984) that these taxa form a monophyletic group. Clearly, each characteristic shows greater variation than was previously thought to be the case.

***Gigantometopus rossi*, new species**

Figs. 1-4

Diagnosis. See above.

Description. Coloration. Pale testaceous with antennal segment II, space between eye and antennal fossa, 'V' shaped marking on front of head ventrad of eye, propleura, 'W' shaped marking on posterior lobe of pronotum, mesoscutum laterally and mesially, scutellum and clavus mesially, corium except near claval suture and interiad



Figs. 3, 4. *Gigantometopus rossi*. 3. Mesofemoral trichobothria. 4. Metafemoral trichobothria.

of basal portion of radius, veins of membrane, basal half and apex of metatibia, metatarsal segment III (other legs less so), ventral portion of thorax, and abdomen laterally, ranging from pale to dark fuscous to piceous; vertex, lora, proepsternum, coxa, femur distally (especially metafemora), and extreme ventral portion of abdomen rufus. Measurements (in millimeters). Total length 6.98; length from apex of tylus to cuneal fracture 4.94; maximum width of pronotum 2.69; length of pronotum 1.55; width of head across eyes 1.03; interocular width (directly posteriad of ocelli) 0.32; interocellar width 0.15; height of eye 0.75; height of head 1.71; distance between eye and antennal fossa 0.41; antennal segment I 0.23; II 1.64; III 1.10; IV 0.39; labial segment I 0.88; total length of labium 3.10; length of cuneus at lateral margin 0.78; length from apex of cuneus to apex of membrane 1.50.

Holotype. Female. SUMATRA. Sumatera Barat. Mangani, mine near Kota Tinggi, 700 m, 20 July 1983, Edward S. Ross. Deposited in CAS. Type No. 16508.

Etymology. A patronym for Dr. E. S. Ross who collected the holotype.

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LITERATURE CITED

- Akingbohunge, A. E. and T. J. Henry. 1984. A review of the taxonomic characters and higher classification of the Isometopinae (Hemiptera: Miridae). XVII International Congress of Entomology, Hamburg, Germany, Abstract Volume, p. 13.

- Ghauri, M. S. K. and F. K. Ghauri. 1983. A new genus and new species of Isometopidae from North India, with a key to world genera (Heteroptera). *Reichenbachia* 21:19-25.
- Henry, T. J. and A. G. Wheeler, Jr. 1988. Family Miridae Hahn, 1833. Pages 251-507 in: T. J. Henry and R. C. Froeschner (eds.), *Catalog of the Heteroptera, or True Bugs, of Canada and the Continental United States*. Brill, Leiden, 958 pp.
- McAtee, W. L. and J. R. Malloch. 1932. Notes on genera of Isometopinae (Heteroptera). *Stylops* 1:62-70.
- Schuh, R. T. 1976. Pretarsal structure in the Miridae (Heteroptera) with a cladistic analysis of relationships within the family. *Amer. Mus. Novitates* No. 2601. 39 pp.
- Schuh, R. T. and M. D. Schwartz. 1984. *Carvalhoma* (Hemiptera: Miridae): revised subfamily placement. *J. New York Entomol. Soc.* 92:48-52.

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